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OVARIAN TUMOR REMOVED BY ENUCLEATION.

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CASE CXCIX.—*Ovariotomy.*—On the 17th of last month, I was called to visit Miss A. W., of Vermont, aged 22, who had been suffering from the inconvenience of an enlargement of the abdomen for about four years. She had menstruated regularly, and had but little pain and inconvenience, except from the size and pressure. She could exercise freely, but not rapidly; and chose to be upon her feet a considerable portion of the time, as the sagging of the tumor relieved the pressure upon the lungs and heart.

I arrived there, in company with Dr. Sherwood, of Fairfield, at about ten (10) o'clock, A.M., and made a hasty examination, and soon was satisfied that I had a unilocular cyst only to contend with, and, also, that there were not extensive adhesions; but as I could only move it to a limited extent, I also concluded that it had only a short pedicle. I advised Dr. Sherwood that we had better make preparations and operate the same day. He at once sent a messenger for some other medical assistants, who were prompt at the appointed time. The table was prepared in the usual manner, and a tub placed under the table to receive the contents of the tumor, and at 1.30, P.M., she was dressed for the occasion and placed herself upon the table without assistance. Chloroform was administered by her attending physician till she was in an anæsthetic state, when the napkin was changed for one moistened with ether, and immediately I was informed that she was ready for the operation. My first incision was made two inches below the umbilicus, and carried down over the linea alba about three inches to the peritoneum by a free cut; then I seized the peritoneum with the forceps, and carefully cut through it by a horizontal stroke of the scalpel, when I introduced a grooved director, and completed the incision through that membrane with a bistoury, as far as the angles of the incision through the skin. About two pints of serum flowed from this incision, which caused a little delay. I then introduced T. S. Wells's ovarian trochar into the cyst and drew off near fifty (50) pounds of clear, limpid serum, which passed into the tub under the table, through a three-fourths inch rubber tubing that was attached to the trochar. This done, I drew the sac through the incision upon the surface of the abdomen. I had previously informed Dr. Sherwood of my intention to enucleate the cyst in this case, and explained to him the process, that he might intelligently assist me if required.

I then made a small slit through the peritoneal coat near the pedicle, and with the handle of my scalpel separated the two coats from each other to a small extent, until I could grasp them in either hand, and at once completed the separation by pulling them apart, and thus removed the entire sac proper as belonging to the tumor; while that portion composed of peritoneum was laid back upon the abdomen, that I might examine it, and wait a little for hæmorrhage to start, if at all. The effects of the atmosphere, though at a high temperature, soon contracted and corrugated the peritoneum to less than half its size, when I separated the cyst from it. On examination of the inner surface of the peritoneum, I found the vessels spread out upon it in a complete net-work, like that of an inflamed conjunctiva largely magnified; but there was no hæmorrhage, except one small artery where I divided the peritoneal coat; and here a small clot had formed, and I thought best to put on a ligature, as I did also on one upon the omentum, leaving the ends out at the lower angle of the incision, to keep it open for the discharge of any matter that might be deposited in the cavity.

After waiting more than an hour to allow the force of the heart to return, the sac was covered by a warm napkin before returning it into the abdomen. But finding no bleeding, I then placed it back into the cavity of the abdomen, and closed the wound by three sutures, one of which I passed through the edge of the peritoneum where I made the slit, to secure that point to the opening, in case any clot should form and require suppuration to remove it. Over this, adhesive straps and a compress of cotton, to fill the vacuum of the abdomen, were placed upon her, secured by a straight bandage.

I have made one hundred and ninety-nine (199) ovarian operations, and, so far as the removal of the tumor and completion of the operation was concerned, this was done sooner by six minutes than I have ever before performed it; and without any attempt at haste. But this method has the advantage also of not requiring any ligatures to bleeding vessels, or the pedicle, or any clamp even, for as there are no vessels cut there are none to bleed. But, as this was the first time I had made the operation in this manner, I thought it prudent to leave it so I could watch it myself for an hour.

I believe Dr. Miner, of Buffalo, N. Y., was the first to recommend this mode of treating the pedicle, and much credit is due to him for what seems to me a very great improvement over all others; both in convenience to the surgeon and in the safety of the patient.

After the delay in the dressings until the ether was fully exhausted, she was dressed for the bed and carefully laid into it, and the eighth of a grain of morphia given her. She soon after fell into a quiet sleep for an hour, and, waking, complained that she had had no dinner, and was hungry. Took a cup of gruel, which was repeated through the night as she demanded; took another eighth of a grain of morphia in six hours, and slept half the night.

18th, 6, A.M.—Had some headache; pulse had increased to 100; and, after inquiry, I found she had suffered for two hours with retention of urine. I drew off about a quart of water, which relieved her head, and the pulse returned to 80.

May 31, received a letter stating that she had been doing well all the time, had good appetite, &c. She is now nearly well, the sutures removed, the ligatures have both come away, and the wound all closed; but I do not think it best to allow her to go out too soon, or to move about the house much.

I shall be glad to see other surgeons adopting Dr. Miner's plan by enucleation, and let the profession know the results.

I consider this case as cured in two weeks, although it is prudent to require her to remain quiet for several weeks more. I have never closed the wound, or allowed it to close, until all the ligatures have come away; and I have many times seen a great advantage in having the ends to manipulate with where abscess has formed, and I have never yet seen any objection to their presence. Besides, I have several times known serious harm, and even fatal results, where other surgeons have cut the ligatures short and closed the abdomen over them. Abscesses have formed and opened in the perineum by the rectum, vagina, and at the point of incision. In all of my cases, I have had but one where abscess or suppuration has followed the operation with bad results. That one occurred twenty (20) days after, and rapidly terminated fatally, and it was not till after a *post-mortem* examination that an abscess was suspected, so rapid was the progress.

NOTES ON THE PNEUMOGASTRIC.

By J. F. Alleyne Adams, M.D., Pittsfield.

(Continued from page 61.)

Influence of the Pneumogastric upon the Lungs.—Recent experiments have made important additions to our knowledge of the nervous processes concerned in respiration. In the first place, Flint conclusively shows that the sense of want of air *(besoin de respirer)* is not communicated to the nerve centres by the pneumogastric; for respiration continues after section of those nerves. Further than this, Brown-Séquard maintains that the generally accepted view that the centre of respiration is located in the medulla oblongata, at the *nœud vital*, or vital point of Fleurens, is erroneous; for, although respiration is instantly arrested by section or a mere prick at this point, yet section of the medulla or the spinal cord below this point, and above the level of the respiratory nerves, does not, in young mammals and adult birds, immediately stop the rhythmical respiratory movements; and he has even found the contractions of the diaphragm to continue for a time, with great regularity, when its communication, not only with the medulla, but also with the spinal cord, has been cut away. From these observations, it is necessary to believe that the diaphragm is, to a certain extent, an independent organ, containing in itself, as does the heart, sympathetic nerve centres controlling its movements. But the vagus, although not indispensable to respiration, yet exerts upon it a powerful influence, whose nature will best be seen by noting the result of certain experiments.

If both pneumogastrics are divided in the neck, in dogs, the number of respiratory acts is at first increased; but, as soon as the animal becomes tranquil, the number is diminished, sometimes falling from sixteen or eighteen to four per minute. The inspirations are, at the same time, unusually profound, attended with excessive dilatation of the thorax. Death usually occurs in from two to five days, and, in most of the animals so dying, the lungs are found engorged with blood, so that they sink in water. This carnification is explained by Bernard as due to a rupture of the pulmonary capillaries, consequent upon a traumatic emphysema, resulting from the excessively deep and labored inspirations.

If galvanization be applied to the pneumogastric in the neck, the effect upon respiration varies, according as the excitation is feeble or energetic. A feeble current accelerates respiration, and renders it more vigorous, especially in inspiration, although, if the feeble current is applied very high up, near the origin of the nerve, respiration is arrested. If a powerful galvanic current is applied to the pneumogastric, in any part of the neck, respiration is arrested by a spasm of the diaphragm; but it speedily returns, even during the excitation. After the removal of the excitation, breathing is accelerated.

Galvanization of the superior laryngeal nerve, whether energetic or feeble, arrests respiration, by paralyzing the diaphragm. Galvanization of the recurrent laryngeal generally produces the same effect. Respiration is also sometimes arrested by the galvanic current applied to the pharynx or œsophagus.

Galvanization of the lungs produces persistent spasm of the diaphragm, and consequent arrest of breathing in inspiration.

From these experiments, it appears that the pneumogastrics exert a normal stimulant influence upon the function of respiration, and that, under certain circumstances, they may also exert an inhibitory power. The inhibitory effect is produced in one of two ways:—first, by a paralyzation of the inspiratory muscles, induced by irritation of the superior or inferior laryngeal, the pharyngeal or œsophageal branches; and, secondly, by a spasm of these muscles, from irritation of the trunk of the vagus, or its ramifications in the lungs.

The first of these modes of inhibition occurs normally in the act of deglutition. It is impossible to breathe, while swallowing; not only because the larynx is closed by the epiglottis, but also because there is a momentary reflex paralysis of the diaphragm, from irritation of the pharyngeal and superior laryngeal nerves.

In the operation of tracheotomy, a temporary stoppage of respiration not unfrequently occurs, from irritation of the inferior laryngeal nerve. The same effect has been observed by Brown-Séquard, on suddenly stopping the mouth of a tube introduced into the trachea of dogs or rabbits, all respiratory effort at once ceasing.

Arrest of respiration also takes place upon submersion. That this arrest is not dependent upon the spasmodic closure of the glottis, which also occurs, has been shown by Bean and Brown-Séquard, by submerging an animal in whose trachea a tube had been placed, whose free extremity communicated with the atmosphere. Even in this case, no effort was made to breathe, or if so, not till after some seconds. Bean asks if this arrest is due to the influence of *cold* upon the mouth and nostrils. Brown-Séquard answers the question by submerging an animal in *warm* water, in a similar manner, and finds respiration again suspended. He concludes that the irritation produced by the contact of either cold or warm water upon the mouth and nostrils, produces, by its *suddenness*, a reflex arrest of breathing. If the trunk or limbs are dipped in water, breathing is accelerated; but it is arrested by the sudden dashing of cold water upon any part of the body, an illustration of Bert's law that any gentle irritation of centripetal nerves increases the number of the respiratory movements, and any powerful excitation diminishes them.

The engorgement of the lungs following section of the pneumogastrics in the lower animals, is also seen in man, when, from any cause, that nerve is severed. A case occurred at the Boston City Hospital,* in 1865, of a woman, whose husband very skilfully divided with a knife the right pneumogastric, as well as the internal jugular vein and the neighboring muscles. She was attacked, on the tenth day, with congestion of the right lung, which passed off on the thirteenth.

Coughing is a reflex, spasmodic contraction of the expiratory muscles, produced by irritation of the inferior laryngeal or pulmonary branches of the pneumogastric. In asthma, there is, according to Salter, a spasmodic contraction of the bronchial tubes, caused by pneumogastric irritation. This irritation is generally reflex, from impressions upon the respiratory or gastric mucous membrane, or the skin; but may arise, as well, from cerebral disturbance. Neftel † has contributed some interesting observations upon the treatment of this most obstinate affection by galvanization of the pneumogastric. He uses the polar method, applying a current of gradually increasing intensity, all large fluctuations being carefully avoided, by means of the rheostat, and reports a marked degree of success, the paroxysm usually passing off, in from two to ten minutes. But he finds the relief afforded sometimes by the anelectrotonic, and at other times by the catelectrotonic condition of the vagus. Reasoning from the spasm-theory of asthma, it was to be expected that the former alone could give relief; but Neftel has found that in certain cases, the attack is arrested by the latter condition, after the former has failed. In explanation of this peculiarity, he suggests that the theory, held by Walshe and others, that asthma is due to a paralytic condition of the muscular coats of the bronchial tubes, may be true of some cases, while others are the result of spasm, the former class being relieved by catelectrotonus and the latter by anelectrotonus. The idea is certainly plausible, but, in the present inchoate condition of galvano-therapeutics, we must await further evidence before accepting it.

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* Boston City Hospital, Med. and Surg. Reports. 1870. Surgical Report, by Dr. D. W Cheever.

† W. B. Neftel. Galvano-Therapeutics. New York. 1871.

[To be concluded.]

SYPHILITIC DISEASE OF THE PLACENTA.—The *Med. Times and Gazette*, May 10, 1873, gives a summary of Dr. Ernest Fränkel's views on this subject. Dr. Fränkel's article contains the history of over twenty cases of syphilitic placenta. He summarizes his observations in the following conclusions:—1. The placenta may become affected by syphilis, and there are certain characteristic indications of this. 2. The syphilitic placenta occurs only in hereditary or congenital syphilis in the fœtus. 3. The seat of the disease varies according as the mother remains healthy, and the syphilitic virus is communicated directly from the father to the ovum by means of the semen; or according as the mother is diseased. In the former case the affected fœtal villi of the placenta degenerate through proliferation of cellular granulations, with consecutive obliteration and atrophy of the vessels, complicated frequently by marked proliferation and thickening of the epithelial covering of the villi. 4. In the latter case, when the mother is syphilitic, the three following conditions may occur:—*a*. The mother, through the act of impregnation, is simultaneously affected with syphilis with the fœtus; diffused syphilis of the placental villi may then develop itself, though primary infection of the maternal parts—endometritis placentaris—is not excluded. *b*. The mother becomes infected before, or shortly after, conception. The placenta may remain normal or become diseased under the form of endometritis placentaris gummosa, or, according to Virchow, in a more limited sense—endometritis decidualis. *c*. The mother becomes infected only during the latter months of pregnancy (seventh to tenth month). It then generally happens that, in case the father was healthy at the time of impregnation, the fœtus, as well as the placenta, is exempt from the above-described alterations. 5. The infection of the fœtus on passing through the maternal passages is rare, and not yet proved conclusively.

Reports of Medical Societies.

REPORT ON PHYSIOLOGY.

By H. P. Bowditch, M.D.

[Concluded from p. 67.]

Localization of Cerebral Functions.

Fritsch und Hitzig.—Ueber die electrische Erregbarkeit des Grosshirns. Archiv für Anatomie, Physiologie und wissenschaftliche Medicin, 1870, p. 300.

Hitzig.—Ueber die beim Galvanisiren des Kopfes entstehenden Störungen der Muskelinnervation. Archiv für Anat., Physiol. und wissenschaftliche Medicin, 1871, p. 716.

Weitere Untersuchungen zur Physiologie des Gehirns. Do., 1871, p. 771.

Beaunis.—Note sur l'application des injections interstitielles à l'étude des fonctions des centres nerveux. Gazette Médicale de Paris, 1873, Nos. 30–31.

Nothnagel.—Interstitielle Injectionen in die Hirnsubstanz. Centralblatt für die med. Wissenschaften, 1872, p. 705.

Experimentelle Untersuchungen über die Functionen des Gehirns. Virchow's Archiv, 1873, p. 184.

Ferrier.—Experimental Researches in Cerebral Physiology and Pathology. British Medical Journal, April 26th, 1872.

J. Hughlings Jackson.—On the Anatomical and Physiological Localization of Movements in the Brain. Lancet, 1873, p. 84.

On the Anatomical Investigation of Epilepsy and Epileptiform Convulsions. British Medical Journal, May 10th, 1873.

Meynert.—Article on Brain of Mammals in Stricker's Handbook, and Résumé by Dr. J. J. Putnam. Archives of Scientific and Practical Medicine, i. p. 172.

Brown-Sequard.—On the Mechanism of production of Symptoms of Diseases of the Brain. Archives of Scientific and Practical Medicine, i. p. 117.

On the Sudden or Rapid Arrest of many Normal or Morbid Phenomena. Do., i. p. 87.

The phenomena of aphasia were at one time regarded by most physiologists as affording satisfactory evidence that at least *one* mental faculty has its seat in a definite, circumscribed portion of the brain. The accumulation, however, of recorded cases in which the disease has been observed without the lesion, and of those in which the lesion has been found without the disease (among which may be mentioned the celebrated "crow-bar case"), has gradually led to the abandonment of this view, as being, at best, only a partial expression of the truth.

The experiments of Fritsch and Hitzig have opened a new field of physiological investigation, and seem to furnish the best evidence we have of a localization of functions in the cerebral substance. These observers removed the upper portion of the skull of dogs, with the exception of a narrow strip of bone over the longitudinal sinus, and irritated the exposed surface of the brain with weak constant and induced currents. When the electrodes were placed upon the anterior portion of the cerebral lobes, muscular movements of various sorts were produced, which was not the case when the posterior portion was irritated. This is of interest, since, according to Meynert's anatomical investigations, the motor nerves are in communication with the anterior and parietal, and the sensitive nerves with the posterior and temporal portions of the brain. Fritsch and Hitzig further discovered that, by irritating certain definite portions of the convolutions, particular groups of muscles on the opposite side of the body could be brought into activity. In this way, "centres" were demonstrated for the muscles of the neck, for the extensors and adductors of the forearm, for the flexors and rotators of the arm, for the muscles of the foot and for the facial muscles. To control these results, the experiment was tried of boring through the skull of dogs at a point, determined by previous experiments to be the centre of movement of the right foreleg, and removing a small portion of the gray substance. Dogs thus operated upon were found to have only an imperfect control over the movements of the limb in question.

In this connection is to be noted a case of depressed fracture of the temporal bone, reported by Wernher, in *Virchow's Archiv* for 1872. Convulsion and paralysis occurred in those muscles whose "centres" were involved in the injury.

The observations of Fritsch and Hitzig have been confirmed and extended by Ferrier, who has, however, as yet published his results only in the form of a brief "preliminary notice." The following are some of the most important of his conclusions :—

I. Those groups of muscles which may be regarded as most voluntary, i. e., those which are in frequent and varied action, have particularly well-marked centres in the cerebral hemispheres. Thus, the centres for the muscles of the tail in the dog, for those of the paw in the cat and for those of the lips and mouth in the rabbit, were found to be very strongly pronounced.

II. The action of the hemispheres on the muscles is generally crossed, "but certain movements of the mouth, tongue and neck are bilaterally coördinated from each cerebral hemisphere."

III. The cerebellum contains centres of coördination for the muscles of the eye, injury to which causes loss of equilibrium.

This last conclusion seems also to be justified by the observations of Hitzig on the effects of a galvanic current directed through this portion of the encephalon. If a constant current is directed from one mastoid fossa to the other, dizziness is produced, accompanied by apparent movements of external objects from the side of the anode to that of the kathode. These are due to real unconscious movements of eyes in the opposite direction. If the eyes are closed, the body seems to be falling to the side of the kathode, and an effort is made to recover the equilibrium, which results in a fall to the opposite side. The rolling movements of animals after injury to the cerebellum are explained by Hitzig on the supposition that the animal so affected has continually the impression that it is falling to the injured side, and consequently makes violent efforts which carry it constantly in the opposite direction.*

To avoid the general disturbance resulting from the removal of a portion of a nervous centre, Beaunis and Nothnagel attempted to destroy the functional activity of definite portions of the brain by the injection of various fluids. Nothnagel injected a concentrated solution of chromic acid through a fine subcutaneous syringe. The effect is to color green and to harden the cerebral tissue with which the acid comes in contact. Around this portion a very circumscribed inflammation is produced, and its functions may be considered as annihilated. Rabbits were found to survive this operation only from one to three weeks. It can scarcely be regarded, therefore, as simply annihilating the function of the part affected. The results of Nothnagel's experiments confirm, in general, those of Fritsch and Hitzig. The former observer, however, distinguishes the motor centre of the limbs from the centre of muscular sense. Both lie close together in the anterior portion of the opposite cerebral lobe, the former a little farther forward than the latter. The great advantage of Nothnagel's method is that it enables him to operate upon the deeper portions of the brain without destroying the more superficial parts.

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* See, also, Report on Electro-Therapeutics, this JOURNAL, Oct. 31st, 1872.

Lesions of the brain are termed, by Hughlings Jackson, "destroying" or "discharging," according as they annihilate or stimulate the functional activity of the parts where they occur, the former causing paralysis and the latter convulsions, when occurring in parts of the brain connected with the muscular system. The study of destroying lesions of the corpora striata has shown that the paralysis thereby produced on the opposite side of the body attacks first the more voluntary and afterwards the more automatic muscles. The same order is observed in the case of destroying lesions which affect only mental phenomena, the brain, in undergoing slow deterioration, becoming more automatic and less voluntary in its actions. Something of the same sort seems to take place in the temporary mental paralysis produced by alcohol, thus affording a physiological explanation of the saying, "*in vino veritas.*"

"Discharging" lesions also show the same peculiarity in regard to the order of the muscles affected, convulsions beginning most frequently with the hand, less frequently with the face, and still less frequently with the foot.

Hughlings Jackson refers to Ferrier's experiments as artificially produced discharging lesions, and regards the study of discharging lesions, natural and artificial, as the only method by which the localization of functions in the cerebral lobes can be determined; for though a destroying lesion may annihilate the functional activity of a certain portion of the brain, it is quite possible that its functions may be discharged by some other portion, and thus no effect of the injury be apparent. On the other hand, a discharging lesion, by bringing a certain portion of the brain into activity, must always produce some definite effect. The recognition of this power of vicarious activity in the different parts of the central nervous system will doubtless explain many apparent contradictions between pathological observations and physiological experiments; for it is quite conceivable that experimental destruction of a certain part of a nervous centre may cause serious functional disturbance, while pathological degeneration of the same part, occurring slowly and allowing time for other portions to assume the functions of the part affected, may produce no such result.

In the recently published views of Brown-Séquard on nervous physiology, the so-called "inhibitory" processes play a much more important part than has been heretofore assigned to them, twenty different kinds of inhibitory phenomena being enumerated, of which the arrest of the heart by the galvanization of the vagus nerve is the best understood. Both the production and the cure of a great variety of mental disturbances are due, according to this author, to inhibitory influences proceeding from one portion of the central nervous system to another. While admitting "that a considerable alteration of the whole extent of the cortical parts of the brain will affect the mental faculties in a direct way, i. e., as taught by the old theories," Brown-Séquard concludes, "from the study of every symptom of brain disease, that all parts of the brain resemble the peripheric parts of the nervous system, in being able, under irritation, to act on any of its other parts, modifying their activity, so as to destroy, or diminish, or to increase and to morbidly alter it." In other words, an injury to any one portion of the brain may produce not only the *direct* effects of a destroying or discharging lesion of the part affected, but also an *indirect* effect upon *any other* portion of the brain; and this indirect effect may be either to increase, to diminish, or to morbidly alter the functions of the part thus affected. With such unlimited possibilities in the way of effects, cerebral lesions may well be regarded as defying diagnosis.

TROPHIC NERVES.

JOSEPH.—Ueber den Einfluss der Nerven auf Ernährung und Neubildung. Archiv für Anat., Physiol. und wissenschaftliche Medicin, 1872, p. 206.

POWER.—The Influence of the Nerves on Nutrition. Practitioner, March, 1873.

CHARCOT.—Leçons sur les Maladies du Système Nerveux. Paris. 1872.

VULPIAN.—Recherches relatives à l'influence des lésions traumatiques des nerfs sur les propriétés physiologiques et la structure des muscles. Archives de Physiologie, 1872, p. 245.

HAYEM.—Note sur deux cas de lésions cutanées consécutives à des sections de nerfs. Archives de Physiologie, 1873, p. 212.

RANVIER.—De la dégénérescence des nerfs après leur section. Comptes Rendus, Dec. 30, 1872.

The question whether the nerves exercise any *direct* influence upon the nutrition of the tissues to which they are distributed is one of great practical importance; for, as Dr. Anstie well observes, "the hope of discovering scientific and intelligible rules for guidance in the employment of many important remedies, and especially *electricity*, depends largely upon our coming to a decision on this matter." Notwithstanding the great number of experiments and observations that have been made with a view of throwing light on this question, there is still a great difference of opinion amongst writers on the subject. Joseph concludes, as the result of his experiments on frogs, that in these animals the nerves exercise absolutely no direct influence on the nutrition of the tissues. Section of the nerves of a limb produces no disturbance of nutrition, excepting the slow atrophy resulting from functional inactivity, and irritation of the nerves is likewise without effect. Wounds heal as perfectly and as rapidly whether the nerves supplying the parts are divided, irritated or left intact.

Power also denies the existence of trophic nerves, and refers the nutritive disturbances which are known to frequently follow nerve lesions in man and the higher animals either to irritation or to paralysis of the vaso-motor nerves, or to a loss of functional activity of the part. He cites various instances of tissues, both normal and pathological, which are destitute of nerves, and where, nevertheless, nutrition takes place; but this, of course, is no proof that nerves may not influence the nutrition of the tissues in which they are present, any more than the absence of bloodvessels in the cornea is a proof that the circulation of the blood plays no part in the processes of nutrition.

Charcot, who discusses the whole question most thoroughly and systematically, rejects the theory that paralysis of the vaso-motor nerves alone can cause trophic disturbances, for section of these nerves in animals is not followed by any such results if care is taken to exclude all other possible causes of trouble, though the hyperæmia thus produced creates, without doubt, a certain predisposition to inflammations. Moreover, the lesions of the skin, muscles, joints, &c., which occur in man, as the result of injuries to nerves, are not accompanied, as a rule, by signs of vaso-motor paralysis or irritation.

"Nothing is better established in pathology," says Charcot, "than the existence of these trophic disturbances as the result of lesions of the nervous centres or the nerves. And yet the most advanced physiology teaches that, normally, the nutrition of the different parts of the body does not depend essentially upon an influence of the nervous system." To explain this apparent contradiction, Charcot accepts the proposition first announced by Brown-Séquard, that *section* of a nerve causes, in the tissues supplied by it, only those slow changes which are due to a functional inactivity of the part, while *irritation* of a nerve may produce, with considerable rapidity, a variety of lesions which have generally more or less of an inflammatory character. On this principle are to be explained the results of incomplete section, contusion, &c., of nerves, these injuries causing irritation of the nerve in consequence of the inflammation which they produce. This is quite in accordance with the views of Weir Mitchell, derived from the observation of gun-shot wounds of nerves.

On the other hand, the observations of Vulpian on the influence of nerve-lesions on the muscles which they supply, lead him to the conclusion that, as far as the effect on muscular contractility is concerned, there is little difference between a section, an excision, a contusion, a ligature and a cauterization of the nerve. In this connection is also to be noticed a case, reported by Hayem, of section of the median nerve by a splinter of glass, resulting in loss of motion and sensation in the thumb, index and middle finger, followed, after six weeks, by a pustular eruption and ulceration of the ends of the fingers. As there was never any great pain, it seems unlikely that an inflammation of the nerve at the level of the wound could have been the cause of the morbid phenomena.

Whatever may be the result of section of a nerve on the nutrition of the parts to which it is distributed, there is no doubt that the peripheric portion of the divided nerve undergoes changes, usually described as degenerative, in consequence of which it loses its irritability. That these changes involve the destruction of the axis-cylinder is now generally admitted, but the way in which this result is brought about is still under discussion. Ranvier has recently investigated the subject in the light thrown upon the question by his observations on the structure of the normal nerve fibre.* He finds that, immediately after the section of the nerve, the nuclei of the peripheric portion enlarge and proliferate, and the protoplasm around them increases in amount in such a way as to press upon the medullary substance and axis-cylinder and, finally, to destroy their continuity. This happens about the third or fourth day after the section, which is about the time at which divided nerves are found to have lost their irritability. Ranvier considers that an influence proceeds from the nervous centres which regulates or controls the nutrition of the nerves and of the tissues to which they are distributed. Section of the nerve is therefore followed by an uncontrolled and irregular growth (often leading to destruction) of the parts thus deprived of nervous influences.

It will thus be seen that the question is far from being settled. It would at first sight seem improbable that section and irritation of a nerve should both produce the same effect upon the tissues to which the nerve is distributed; but it must be borne in mind that it is probably impossible to produce experimentally a simple withdrawal of the tissues from the influence of the nerves, for a section of a nerve, however carefully accomplished, is liable to produce a certain amount of irritation both at the time of section and in the course of healing. The observations of Ranvier, showing a similarity in the processes which take place in the peripheric end of a divided nerve and in tissues whose nerves are irritated, may be regarded as indicating that the so-called degenerative changes in divided nerves are really due to irritation at the point of section. Moreover, the fact that divided nerves, after undergoing so-called degeneration, are regenerated without reunion of the divided portions, seems to show that the changes in the peripheric portion cannot be due to a mere absence of an influence proceeding from the nervous centres. If this view be correct, there is only a difference in degree between the effects of section, and those of irritation, of a nerve; and while we cannot admit the existence of special nerve fibres charged with conveying trophic influences to the tissues, we must yet acknowledge that, in certain morbid states of the nerves and nervous centres, an influence is transmitted to the tissues in consequence of which disturbances of nutrition occur.

Propylamine.—This drug is contained in the flowers of *Cratœgus oxycantha*, in the fruits of *Sorbus ancuparia*, in the *Chenopodium vulgare*, and in the ergot of rye, &c.; but it exists in greatest abundance in herring brine, where it is combined with an acid from which it may be separated by distillation with potassa. It is a colorless, transparent liquid, with a strong ammoniacal odor, soluble in water, and presenting even in weak solutions a strong alkaline reaction. It combines with acids to form crystallizable salts, and, like ammonia, produces dense fumes when brought into contact with the vapor of hydrochloric acid. It was discovered in 1850 by Wertheim. It is highly recommended as a remedy for acute rheumatism, the dose being one or two minims three or four times a day.

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* This Journal, Sept. 12th, 1872.

Bibliographical Notices.

Civil Malpractice. A Report presented to the Military Tract Medical Society at its Fifteenth Semi-annual Meeting, January 14, 1873. By M. A. McClelland, M.D. Chicago: W. B. Keen, Cooke and Co. 1873.

Dr. McClelland, appointed on the Committee on Surgery, selected Civil Malpractice as the subject of his report. He begins by adverting to the almost total want of instruction on medical jurisprudence in our medical schools. He divides malpractice into two kinds: civil malpractice, in which patients bring suits for damages; and criminal malpractice, in which the people, or State, is made the plaintiff. Malpractice is "want of skill, and negligence." From the rulings and decisions of the courts, Dr. McClelland endeavors to determine "what the law requires of us as surgeons," and "what is considered skill and care by our leading authorities in medicine. The law on responsibility of surgeons is well laid down in Hilliard's Law of Torts"; this is transcribed in full and is very sound. The phrase "ordinary skill" is ingeniously defined, and many authorities are quoted. Adjudicated cases are narrated, and fill forty pages with interesting, instructive and important information. At the close of the most excellent and painstaking article on various adjudicated cases, an article showing an enormous amount of research and patience, and citations of hundreds of authorities, occurs this remarkable sentence:—"The union of 'shyster' and 'quack' is frequently met with in suits for malpractice, as many of the above cases show." What is meant by a union of "shyster" and "quack" is to us unknown. Perhaps the slang expression "shyster" (whatever it may mean) is good usage in Chicago.

Dr. McClelland goes on to discuss the matter of skill and negligence very ably. First he considers the duty of the surgeon in diagnosis. In doing this he gives us excellent rules from various authorities, and illustrates the difficulties by cases in point. Next, as to treatment and the management of accidents during treatment, Dr. McClelland quotes largely from Ashurst and also from Prof. Hamilton. "In respect to amputations, there is much error prevalent. The people suppose that whoever has performed an amputation of this character must necessarily be an eminent surgeon." The decision as to the necessity for the operation requires the highest degree of surgical skill and judgment, and Gross's and Hamilton's opinions on this question are given as authorities.

"What conclusions," he asks, "may be deduced from these judicial and medical views of 'skill' and 'negligence?'" Dr. McClelland's conclusions are the following:—"Although no surgeon, however eminent, is exempt from the danger of suits from ungrateful patients, the law is for the surgeon's protection as well as for the patient's. . . . . . We need nothing more to make our protection perfect than the enactment of some statute, like that proposed for New York, which will oblige the plaintiff to secure us against all loss in case he does not maintain his suit. We should also be permitted to have one expert on the jury, and, too, there should be some way in which the professional standing of the prosecuting witness could be investigated, to the end that such nonsense as that given in the case of Haire *v.* Reese, wherein the plaintiff's witness gave it as his opinion 'that the head of the femur might be "*crepitated*" by absorption,' may not continue to go to juries as sound medical evidence. Under no circumstances should we compromise such suits. We owe it to ourselves, we owe it to our profession, we owe it to the public whom we serve, to let the matter be tried by the strict letter of the law, and thus vindicate the honor of our profession."

On the whole, Dr. McClelland has given us a very valuable little work, on an extremely interesting subject; the adjudicated cases are well detailed and of great value. It is to be hoped that the subject will be elaborated still farther.

The Mission for Animals. Secretary's Report. Boston. 1873. Pp. 15.

The Mission for Animals is not to be confounded with the State Society for the Prevention of Cruelty. Its field of labor extends throughout the country. In the first circular it is stated that "The Mission for Animals is based chiefly upon the following reasons and considerations:—that the public health, economy and morals are, to a great extent, injuriously affected by our present modes of treating 'live stock' destined for food, clothing and other uses." The condition of wild animals is also considered. The number of buffaloes slaughtered yearly is immense. It is estimated that in 1872 about 275,000 were killed in Kansas alone, and that a twenty-fourth of these, or about 11,458, were slaughtered in "sport and wantonness."

Although we are not disposed to look very severely on a visitor to the West who would like the excitement of a buffalo hunt, we agree that such wholesale butchery should not be permitted. The moose will shortly be extinct in New England, and it is sad to think that the buffalo is likely to follow. We see, in this report, that the North Pacific whaling fleet kill walrus to such an extent that the inhabitants of Alaska are in great danger of being left without food. This strikes us as a case of cruelty to man, yet Congress took no action on a petition concerning it. The report gives some very painful accounts of the treatment of domestic animals, particularly on the road to the slaughter-house.

"An ambulance, or, quite as properly, a dead cart, usually follows a drove of hogs or sheep, and when one falls down it is picked up and tumbled in; and sometimes they are piled atop of each other until the cart is full. And if those first put in are not already dead, they are soon crushed into that painless state by those lying on them. This can be verified almost anywhere along the road from Brighton to Peabody. These animals are turned into *mutton.* Last January, I saw a large drove of hogs wallowing through the snow, up Friendship St., in Providence, followed by a large sled half filled with those which had fallen down, unable to go. The sled was at least a dozen feet long, and the hogs were piled several tiers deep at the forward part, so as to make it convenient to stack them in behind, as fast as they should give out. The blood was dripping from the sides and tail of this sled. These animals were so overheated with their struggles to get through the snow, that, notwithstanding the intense cold, the street was filled with a cloud of steam from their bodies. These creatures—*those that ride* and those that walk—are converted into *pork, in all its varieties.*"

We hope that at our new abattoir such meat will not be received.

We like the way in which the report is written; it is plain and honest, and not, except in one instance, "gushing." Nor do the grievances complained of appear to be sentimental or trivial. Many similar societies have lost much prestige by making themselves ridiculous; nothing can be worse policy, for while there is so much severe suffering in the world it is wrong and silly to seek for petty and unnecessary grievances.

The Mission has our best wishes.

BOOKS AND PAMPHLETS RECEIVED.

On the Treatment of Diseases of the Skin, with an Analysis of eleven thousand Consecutive Cases. By Dr. McCall Anderson. Philadelphia: Henry C. Lea. 1873. Pp. 84. (For sale by A. Williams & Co.)

Chemistry: General, Medical and Pharmaceutical, including the Chemistry of the U. S. Pharmacopœia, &c. By John Attfield, Ph.D., F.C.S. Fifth Edition. Philadelphia: Henry C. Lea. 1873. Pp. 606. (For sale by A. Williams & Co.)

An Introduction to the Study of Clinical Medicine, being a Guide to the Investigation of Diseases. For the Use of Students. By Octavius Sturges, M.D. Cantab. Philadelphia: Henry C. Lea. 1873. Pp. 127.

A Guide to Urinary Analysis. For the Use of Physicians and Students. By Henry G. Piffard, A.M., M.D. New York: William Wood & Co. 1873. Pp. 83.

Contributions to Practical Surgery. By George Norris, M.D., late Surgeon to the Pennsylvania Hospital, &c. Philadelphia: Lindsay & Blakiston. 1873. Pp. 318. (From James Campbell, Boston.)

Dictionary of Pharmaceutical Science. By H. V. Sweringen. Philadelphia: Lindsay & Blakiston. 1873. Pp. 576. (From James Campbell.)

Progressive Myopia and its Operative Cure. By Richard H. Derby, M.D. 1873. Pp. 18. (Re-printed from the New York Medical Journal.)

Fracture of the Elbow-joint. An Essay to which was awarded the Second Prize of the Boylston Medical Society for 1873. By Walter Ela. Cambridge: Welch, Bigelow & Co., University Press. 1873. Pp. 57.

Ergot in the Treatment of Nervous Diseases. By Daniel H. Kitchen, M.D. 1873. Pp. 16. (Re-printed from the American Journal of Insanity.)

An Examination of Prof. Reese's Review of the Trial of Mrs. Wharton for the Murder of General Ketchum. By Philip C. Williams, M.D. 1872. Pp. 31. (Re-printed from the Medical and Surgical Reporter.)

A Reply to Dr. H. C. Wood's Review of the Medical Testimony in the Trial of Mrs. E. G. Wharton for the alleged attempt to poison Mr. Van Ness. By Philip C. Williams, M.D. 1873. Pp. 31. (From the Richmond and Louisville Medical Journal.)

The Mission for Animals. Secretary's Report. 1873. Pp. 15.

Boston Medical and Surgical Journal.

Boston: Thursday, July 24, 1873.

A TRIUMPH OF MORALITY.

It is with a feeling of unmitigated triumph that we make the announcement which will be seen lower down. Delighted with the reform itself, we are proud that it should have been due to the efforts of a Medical Society, proud that our city government should set so admirable an example, and proud that it should be the privilege of the Journal to be the first to make it public.

It will be remembered that the destructive fire of May 30th swept away one of the disgraces of the city, namely "*Dr. Jourdain's Gallery of Anatomy.*" This exhibition was a type of its class; it was a collection of anatomical models and dissections, with representations of skin and venereal diseases, most improper for public exhibition, and calculated to excite the morbid curiosity of the young together with its peculiar forms of hypochondria. Vile pamphlets were on hand to induce those having or fearing disease to consult the proprietor. The harm which this single establishment must have done cannot be calculated. Directly after the fire, a sensational notice appeared in the papers to the effect that orders for new specimens had been sent by telegraph to some of the capitals of Europe, and that the place would re-open (if we remember right) on the fourth of July. This happily did not occur, and another advertisement, which still appears daily, was substituted, stating that the new museum would re-open (*sic*) shortly, and giving the address of the "Doctor's" office.

The following communication, which we are fully at liberty to publish, from the Secretary of the *Boston Society for Medical Observation*, shows that this nuisance is happily at an end.

"At a meeting of the Boston Society for Medical Observation, held in the hall of the Massachusetts Medical Society, June 16th, the following resolution was unanimously adopted:—

"*Resolved*, The Boston Society for Medical Observation respectfully petitions his Honor, the Mayor, and the City Government of Boston, in the cause of morality and public decency, not again to license such an exhibition as the "Gallery of Anatomy," so called, destroyed in the recent fire, and if any such license now exists, that it be annulled.

"It was also voted that a Committee of four be appointed to confer with the authorities at the City Hall in case they should desire any evidence as to the indecent and immoral character of the exhibition in question. The Chairman of the meeting appointed as the Committee, Drs. B. Joy Jeffries, Henry I. Bowditch, Edward Wigglesworth and William L. Richardson.

"A few days after the meeting, the Secretary of the Society called upon Mayor Pierce and presented a copy of the resolution. Mr. Pierce stated that the action of the Society met with his most cordial approval, and promised to bring the subject at once before the Committee on Licenses, of which Alderman Sayward was Chairman. The Secretary subsequently saw Mr. Sayward, who also expressed himself in perfect accord with the wishes of the medical profession as shown by this action of the Medical Observation Society.

"A few days ago the following letter was received from his Honor, the Mayor, written after consultation with Mr. Sayward and giving the latter's decision on the matter, as Chairman of the Committee on Licenses.

"Executive Department,
City Hall, Boston, July 8, 1873.

"*Dear Sir:*—I have the honor to acknowledge the receipt of your communication forwarding the copy of a resolve of the Boston Society for Medical Observation, relative to licensing the Gallery of Anatomy, so called, in this city, destroyed by fire, May 30, 1873.

"I can say in this regard that the proprietor of the Gallery of Anatomy has not as yet applied for a new license for his exhibition, and that such an application will be met by a refusal whenever it is made. Mr. G. E. Lothrop, recently applied for a license for a similar exhibition in Court Street, and was refused by the Board of Aldermen.

"Thanking you for bringing the matter to our attention,

"I am with respect, your obedient servant,

HENRY L. PIERCE,
Mayor.

To W. L. Richardson, M.D.,
Sec'y Boston Soc. for Med. Observation."

The importance of this decision is very great, and we think will have a most excellent effect not only for a long time to come in this city, but also throughout the country. Let the physicians in other cities imitate the action of the Society for Medical Observation, and even if they do not meet with such cordial support from the authorities, they at least will feel that they are in no way privy to the nuisance by the implied consent of silence. We should be doing less than justice to the sound will and right feeling of the Board of Aldermen, did we fail to call special attention to the fact set forth in the Mayor's letter, that it refused of its own accord an application for a license for a similar exhibition. It is good to see the government take so effective a step in the interests of public morality, and it gives us much needed encouragement to continue our efforts for the suppression of quackery.

The first annual report of the City Board of Health was submitted to the Board of Aldermen at its meeting of last week. The record of its first six months' work is a gratifying one. The brilliant results accomplished by them in their active suppression of the smallpox epidemic are accurately and clearly brought out by the figures which accompany the report. The story is already an old one to the public, but, viewed in the light of a scientific fact, will long be remembered and quoted by professional men. We hope the suggestion, that a permanent smallpox hospital should be erected in some suitable part of the city, will meet with the attention which it deserves, and that the city government will not allow its judgment in this matter to be warped by the timid and the ignorant. Our experience of last winter must show, even to the latter, the absurdity of fears of any real danger from such a neighbor. The work on tenement houses, although not so striking to the public eye, is, nevertheless, a matter of the greatest importance, and has been patiently and perseveringly carried on by the board. The effect of this upon the health of the community inhabiting these houses will, doubtless, be made apparent during the present summer. It is reassuring in these days of cholera rumors to feel that work of this kind is going on. "The troublesome question of sewerage," and the inspection of meats, &c., are both alluded to in the report, and it is to be hoped that the board will soon find time to bring about a thorough reform in these very important matters. If it is necessary that greater powers should be given them to accomplish these ends, we trust that the public may be made to realize the necessity of these reforms without any such practical illustration as that which we enjoyed last winter. The report, though somewhat verbose, contains much that is instructive as well as gratifying to a citizen of Boston. We hope that it has been very generally read.

DISEASE OF THE SPLEEN IN NEWLY BORN SYPHILITIC CHILDREN.—M. Parrot, in the *Mouvement Médical*, states that newly born syphilitic children are subject to lesions of the spleen of two orders: one consists of enlargement, the other of inflammation which gives rise to false membranes around the capsule. He seeks to explain the augmentation of volume by the subordination of the vascular system of the spleen to that of the liver: for the latter organ being constantly affected by a special kind of cirrhosis in newly born syphilitic children, it follows that the spleen must become a reservoir for the blood which can no longer find a course through the liver.

As to the future of these lesions, M. Parrot is unable to speak positively for lack of sufficient observations; but he reports certain lardaceous alterations which have been met with at a more advanced age in those who were affected with syphilis at birth.

It should not be forgotton that our own countryman, Dr. Samuel Gee, noticed enlargement of the spleen in syphilitic children some years ago. Dr. Gee communicated a paper on this subject to the Royal Medical and Chirurgical Society in 1867. It was founded on observations made during the preceding four or five years.

The following is an abstract of the paper, which was entitled, "On Enlargement of the Spleen in Hereditary Syphilis and in some other Diseases of Children:"—

"I. In about one-fourth of the cases of hereditary syphilis, the spleen is much enlarged. Sometimes enlargement of the liver and lymphatic glands is superadded. The degree of splenic enlargement may be taken as a sort of index of the severity of the cachexia: the majority of cases with great enlargement die, but sometimes such children survive, the spleen gradually diminishing in size as the health improves, not diminishing, however, *pari passu*, with the improvement of health, but remaining for a long time a monument of past cachexia. Thus the spleen can often be felt in children three years old and upwards who bear the marks of past syphilis upon them. Sometimes an enlarged spleen is the only sign of an active syphilitic cachexia.

"II. In ague, also, it is sometimes the discovery of an enlarged spleen which first puts us upon the right scent, and enables us to detect the existence of ague which would otherwise be latent.

"III. Children in whom we can all but positively deny the existence of syphilis or ague occasionally acquire a greatly enlarged spleen, attended with a cachexia which is sometimes very profound. We can exclude leukemia, lymphatic anemia, rickets, idiopathic purpura, and primary disease of the liver in the cases referred to; whence it is inferred that children are subject to one or more cachexiæ not yet defined, or else that the known cachexiæ may present themselves shorn utterly of all the signs by which they may be recognized. For the cases in question, the name of simple splenic cachexia was proposed: the analogy with lymphatic anemia (Trousseau's adénie) was pointed out."—*The Obstetrical Journal of Great Britain and Ireland.*

TREATMENT OF CANCER OF THE UTERUS BY ERGOT AND ESCHAROTICS.—Dr. Milne, in a paper read before the Obstetrical Society of Edinburgh, claimed that the treatment of cancer of the uterus by the use of certain kinds of caustics was more satisfactory than by excision. The caustics recommended were the chloride of zinc, the nitrate of copper, and the dried sulphate of zinc; and the cases suitable were all those of encephaloid, carcinoma and epithelioma, where the cervix only was involved. One would not perform excision unless there was only a small portion of the cervix attacked by the growth, but the escharotic might be resorted to, and with benefit, when the disease was much more extensive.

As regards the mode of application of the caustics, the dried sulphate of zinc was to be first used, being applied to the cervix pretty freely through the speculum, the vagina being immediately thereafter plugged with cotton wool tipped at the uterine end with a little olive oil. This was to be applied until the slough came away, after which the cervix was to be injected with a saturated solution of nitrate of copper. This was done to attack any morbid cells lying beyond the sore from which the slough had separated.

In reference to the function of ergot given internally in cancer, Dr. Milne observed that it had usually been administered, and with benefit, as a hemostatic; but he believed it had another effect—it led to the atrophy of the uterus. This was an original observation which he claimed to have been the first to make. If it had this effect, then its therapeutic power was greater than had been previously imagined, and could not but be viewed as of great value in uterine cancer. It was not only important to diminish the afflux of blood to the uterus, and thereby combat uterine congestion—a condition present in malignant disease—but it was no less so to induce uterine atrophy. This atrophy was natural after the change of life, at which period cancer advanced more slowly; and if we could antedate it, it would be reasonable to suppose that the progress of the dire disease would be retarded. In point of fact he had found such to be the case.

By the use of ergot and escharotics he had cured two cases of cauliflower excrescence, and in three medullary ones he had retarded the disease at least. If only a postponing of the period of dissolution was all that could be achieved, yet this result was worthy of our most devoted efforts. The great drawback in uterine cancer was the late period at which it came under professional notice. Usually the whole cervix and contiguous parts were involved, and every form of treatment was thus debarred. Let it be seen when limited to a part only of the cervix, and there was every hope that the ergot and caustic treatment would frequently cure, and often mitigate the more distressing symptoms while postponing death.—*Obstetrical Journal of Great Britain and Ireland,* May, 1873.

Correspondence.

The new Abattoir at Brighton.

Messrs. Editors,—Most of the readers of the Journal very well know that Brighton has always been, as a town, the principal abattoir of Boston. Its name has been distinctively associated with the sale and slaughtering of cattle; and the latter branch of industry has had anything but a sweet and wholesome savor in the minds of the people hereabouts. In the hands of the individual butchers, the trade became, for its notorious offensiveness, a perpetual thorn in the flesh to all residents of Brighton who were not engaged in butchering, and a passing reproach in the nostrils of all wayfarers. The stench hanging about these centres of pollution, contaminating the air of all the neighborhood, and the disgusting details of the business, the filth, the waste, the putrefaction of the offal and of other animal matters in the yards, or, worse still, in the piggeries adjacent to the slaughter houses, made a nuisance, of which, for a long time, there was no mitigation.

In vain did the town authorities expose the subject annually and attempt its reform; the butchers' guild was too strong to be disturbed through any of the existing processes of law. Then the State Board of Health was organized; and among the matters presenting for its deliberations, the slaughter-house nuisance of Brighton took an early and a prominent place. The various steps in the proceedings of this Board toward the abolition of the evil are of too recent occurrence to have been forgotten; they hardly need recital here. The matter was fully exposed in the first report of the Board, and the slaughtering business, as then carried on, was pronounced, unequivocally, to be an evil demanding immediate reform. Then the Legislature, moved by this Report, passed an act, incorporating an abattoir association; this act, the Brighton butchers, feeling tolerably well satisfied with their traditional habits of doing things, declined to take advantage of, and it became practically a dead letter for the time being. Then, because of this contumacy and indifference on the part of the butchers, special executive powers were imposed on the State Board of Health, under which the slaughter-houses were to be subject to the oversight of the Board, with the liability of being compelled to "cease and desist" if the Board considered them prejudicial to the "public health, comfort or convenience." At about this time, moreover, a butcher died in Brighton of septic poisoning caused by cutting his hand while dressing an ox which had died of disease, and it was discovered that half of the diseased animal was taken to Boston to supply the demand for roast beef. This somewhat startling incident aroused that lazy and frequently latent force called "public opinion"; and, with the Legislature and public opinion to support the reform, the State Board of Health saw itself in a fair way to effect a revolution. It used its powers judiciously, conscientiously and prudently, and at the end of the year reported upon twenty-three cases which had come under its executive action.

The result of all this has, of course, been salutary; but it is as yet only partial. The slaughter-house nuisances of Brighton have been modified, but not wholly abolished; a number of establishments still remain to remind people of what once existed. It is to be hoped that these will, sooner or later, be made to feel the power of that sanitary supreme court—the State Board of Health—and be compelled to pursue less obnoxious courses.

Another result, besides the immediate closing of the most offensive of the slaughter-houses, has been the establishment of an abattoir under the act alluded to above. The wholesome incursion of sanitary forces to Brighton, opened the way for the practical working of the proposed company. The "Butchers' Slaughtering and Melting Association" have completed their works, and they are now in operation. Your correspondent was curious to observe the details of this experimental innovation, and he takes the liberty of describing some of the features of the Brighton abattoir, the real monument of the persistent and praiseworthy efforts of the Health Board to abate a long-lived nuisance.

The situation of the establishment is excellent; it is immediately on the bank of the Charles river, and at a distance from any dwelling house. This latter advantage is, however, more an apparent than a substantial one, for, so far as any nuisance attending the slaughtering is concerned, the most fastidious landholder would not suffer in his sense of smell were he to reside under the very eaves of the new building. The feature which, at the outset and throughout, strikes the observer most is the pains taken to secure all the good results of cleanliness. The ventilation is excellent. The river supplies water in unlimited amount, and it is used lavishly. The sewerage is amply provided for, all waste of fluids passing at once through large pipes into the river below the buildings. The floors are all water-tight, those of wood being made like a ship's side, wood-fastened and caulked; while the whole ground-surface covered by the structure is cemented, except at the apertures for the sewers. It is to be observed that all these provisions, which are really the application of conditions imposed, under the law, by the Board of Health, are in no single direction made at a sacrifice of convenience, but rather they enhance in every way the facility of slaughtering. It is agreeable, also, to note that the yards and pens for the keeping of the cattle are all they should be.

To give an idea of the practical operation of this institution, let me follow the experience of an ox from the pen to the market on the one hand and to the tallow-barrel and fertilizer on the other.

The animal, entering the slaughtering-room through a door from a stall immediately adjacent, is killed on a water-tight floor; the throat is cut, and the escaping blood finds its way readily through one of the five round apertures to the cellar below. The hide and horns, hoofs, viscera, head, tallow and other offal, as soon as they are removed from the carcass, are tossed down through the openings, each part having its own place according to its destination subsequently—the hide and hoofs through one, the tallow through another, the contents of the intestines through a third, and so on. The creature, having been thoroughly cleaned, is divided, the apparatus for hoisting being run by shafting from the engine, and easily controlled in each apartment. The beef is then transferred to hooks which roll on an elevated tramway suspended from the roof; after cooling a little time, it is carried directly, and without removal from the circuitous railway, into the refrigerator, an ice-room being connected with each stall. This artificial cooling of the meat is considered especially advantageous.

Going into the cellar below, we find that large sheet-iron barrows have received the tallow, the offal and other refuse. This material is removed as quickly as it accumulates, and there is no opportunity for decomposition. The tallow goes to some rendering establishment, the hoofs belong to the glue-manufacturer, the hides are salted on the premises, the fluid waste escapes into the sewers, and all the rest—the viscera (first cleaned properly), the heads and all the refuse—is transferred to the great rendering house, where it undergoes processes which utilize what in ordinary slaughter-houses is thrown away. All this offal is emptied into large tanks heated by steam, and all the fat is melted out and drained off from the top of the boiling mass, making tallow of a second quality. The residuum, or "scrap," is then removed to the drying machinery, large cylinders, steam-heated, wherein the material is dried and, at the same time, pulverized ; when it is removed, it is mostly in the form of a dark-brown coarse powder, of great value as a fertilizer.

In this process of "rendering" there would seem to be ample opportunity for the development of offensive stenches. This nuisance does not appear, for the steam generated in the process is condensed in cold-water chambers, and the gases are conveyed by pipes into the fires of the boiler room where they are fully consumed. This disposition of the escaping steam and gas is found much more satisfactory than that practised elsewhere, of conveying them into an adjacent stream where they are condensed, but whence they also escape.

The advantages of this extensive abattoir, as compared with the ordinary slaughter-houses, are:—

1. Its cleanliness and freedom from nuisances. The person who knows he is buying beef or mutton from the Brighton abattoir may know that it was killed and dressed in a clean and decent fashion.
2. Its sewerage.
3. Its abundant water service.
4. Its mechanical appliances.
5. Its entire abhorrence of any thing like a slaughter-house pig-pen.
6. Its means of utilizing economically all that is commonly thrown away to decompose.

Do the butchers of Brighton readily accept the situation and see these advantages ? The answer to this is in the fact that all the stalls have been taken or are under negotiation ; and the company is encouraged to construct another large beef-slaughter house. The rendering-house is large enough to supply the demand for some years to come. If the butchers are wise they will greedily compete for places in the abattoir. At all events, the State Board of Health may, by law, compel the butchers to transfer their industry to this place, and may make very uncomfortable those who are incorrigible.

In a sanitary point of view, success is already assured ; it is to be hoped that the founders of the enterprise may find a satisfactory pecuniary profit for their labors, in proportion to the measure in which they have promoted the public welfare and the public health. Two innovations are still possible to increase the usefulness of this excellent enterprise—one economic, the other sanitary. These are the saving and utilization of the fresh blood for the manufacture of albumen ; and the appointment of an expert inspector of meat and cattle, so that no consumer of meat from this abattoir may be in doubt that he has wholesome steak and chop on his table.

This letter ought not to end without an acknowledgment of the courtesy of Mr. John N. Merriam, the President of the abattoir company ; it is most agreeable to find a gentleman whose practical common sense can find a compatibility between business enterprise and a regard for the public welfare.

June 28, 1873.

Medical Miscellany.

PUT WHERE IT WILL DO THE MOST GOOD.—The Cholera in the Ohio Penitentiary.

ACCORDING to the Philadelphia *Medical Times*, cases resembling cholera have appeared in that city, and in the west as far east as Cincinnati; also in Jersey city.

MEN AND CATTLE.—At a recent meeting of the Lincoln Town Council, Alderman Brogden thought it strange that the officer who had the inspection of the health of the people should receive only £15 per annum, while the inspector of cattle received £77:3:6. But no one seemed to think it strange "in an agricultural country"; and the only explanation given was, that the inspection of cattle was paid by fees in an expensive way.—*British Medical Journal.*

MME. CHATEAU, a *sage femme* of Vierson, has been awarded a prize by the Ministre d'Agriculture for her devotion during the small pox epidemic of 1870. Her vaccinations amounted to 400, and the re-vaccinations to 3,750.

TRANSFUSION OF BLOOD IN LEUKÆMIA.—In our number of May 24th, we mentioned that Mr. Callender had performed transfusion of blood on a patient suffering from leucocythæmia, and that he proposed to repeat it if successful. It has been repeated once since: several ounces of blood, taken from a stout-looking countryman, were injected. As in the first trial, the immediate results of the operation were encouraging, but it does not seem to have done much permanent good. The notes of this case will be looked for with interest in the *St. Bartholomew's Hospital Reports.—Brit' Med. Jour.*

AT the annual commencement, Amherst College honored our fellow-citizen, Dr. Nathan Allen, by conferring on him the degree of LL.D., a compliment which we are sure is not an idle formality. We think this degree is seldom given to members of the medical profession, but generally to persons distinguished by law and divinity—to judges, professors, authors, or scientific men. If conferred on medical men, it is in recognition of special attainments, and its rarity to physicians makes the honor more marked and noticeable. The late Dr. Dana, who for years was a chemist in the employ of the Merrimack Corporation, was the only resident of Lowell, previous to Dr. Allen, who ever received the distinction conferred by this degree. It affords us pleasure to record an act so complimentary to our well-known fellow-citizen. —*Vox Populi of Lowell.*

ACTION OF THE BOARD OF REGENTS OF THE UNIVERSITY OF MICHIGAN.—To answer numerous inquiries the following preamble and resolutions, passed by the Board of Regents at a late meeting, are published:

Whereas, The Legislature of the State of Michigan at its last session re-enacted the law of 1855, requiring the appointment of Homœopathic Professors in the Medical Department of the University; and, whereas, it has always been claimed by the Board of Regents that the law was an infringement upon the rights and prerogatives of the Board; and, whereas, the Supreme Court of the State has refused to grant a mandamus requiring the Regents to comply with the law, thereby substantially confirming their action, therefore,

Resolved, That we maintain the position heretofore taken, and decline to make the appointments required by the law.

Resolved further, That we do this in no spirit of factious opposition to the apparent will of the Legislature, but because we believe the true and best interests of the University demand it.

Resolved, That we re-affirm the former action of the Board expressing a willingness to take official charge of an independent school of Homœopathy, and connect it with the University, whenever the means shall be provided for the payment of its professors.

THE *Students' Journal and Hospital Gazette* speaks as follows on the recent decision excluding female medical students from the University of Edinburgh.

"This decision is fatal to the hopes and aspirations of the ladies, as far as the University of Edinburgh is concerned; andwh ilst congratulating the male students of this seat of learning on the decision, we would ask the ladies not to feel discouraged, though Edinburgh will have none of them; the needy professors of Continental universities will welcome them joyfully, where they will be able to receive scientific education in mixed classes, sit in lecture theatres where men are exhibited *in puris naturalibus* to demonstrate the lectures, enjoy the charming society of their Russian sisters, and if so inclined may join secret political societies or become converts to communistic theories of *free love*, without any fear that the British Government will follow the example of the Russian authorities, by taking steps to prevent them from corrupting the morals of the youth of this country on their return."

THE SHAH'S PHYSICIANS.—The physician to the Shah of Persia, who is in attendance upon him during his European travels, is a Frenchman who has held that post for fifteen years, and is well known as a physician of eminence and research. M. Tholozan is a "Médecin Principal d'Armée" of the French army, and a "Membre Correspondant de l'Académie de Médecine de Paris." His best known works are on the origin and development of cholera epidemics. He has used his opportunities for studying this important question in Persia, which is one of the cradles of cholera. M. Tholozan is one of the most esteemed corresponding members of the Epidemiological Society of London; and the Council of the Society have gracefully recognized his services to epidemiology by inviting him to a banquet on Monday next at Greenwich. Dr. Dickson, who also accompanies the Shah, has been for many years in practice at Teheran, and, after acquiring a degree, was appointed to the Embassy. He had the skill and fortune to cure the Shah of an attack of fever which seized him during the absence of his physician in Europe, and which resisted the endeavors of native physicians.—*London Medical Record*, June 25.

ERRATA.—Page 57, sixteenth line from bottom, the first "hypoglossal" should read *glosso-pharyngeal*. Page 56, twentieth line from bottom, between "its" and "origin," insert *superficial*. Page 60, third line from top, for "shower baths" read *shower bath*. Page 60, twentieth line from the bottom, omit words "to be." For "Cym" read *Cyon* wherever the word occurs.

MORTALITY IN MASSACHUSETTS.—*Deaths in eighteen Cities and Towns for the week ending July* 12, 1873.

Boston, 128—Charlestown, 19—Worcester, 19—Lowell, 22—Milford, 4—Chelsea, 7—Cambridge, 17—Salem, 7—Lawrence, 21—Springfield, 6—Lynn, 11—Fitchburg, 4—Taunton, 3—Newburyport, 3—Somerville, 7—Fall River, 25—Haverhill, 9—Holyoke, 14. Total, 326.

Prevalent Diseases.—Cholera infantum, 56—consumption, 47—scarlet fever, 14—cerebro-spinal disease, 14.

Six deaths from smallpox occurred in Holyoke.

GEORGE DERBY, M.D.,
Secretary of the State Board of Health.

DEATHS IN BOSTON for the week ending Saturday, July 19, 191. Males, 105; females, 86. Accident, 6—abscess, 1—apoplexy, 1—anæmia, 1—inflammation of the bowels, 3—bronchitis, 2—inflammation of the brain, 1—congestion of the brain, 1—disease of the brain, 8—cyanosis, 1—cancer, 1—cerebro-spinal meningitis, 1—cholera infantum, 43—consumption, 29—cholera morbus, 2—convulsions, 3—debility, 1—diarrhœa, 4—dropsy, 3—dropsy of the brain, 4—drowned, 3—dysentery, 1—diphtheria, 2—erysipelas, 1—scarlet fever, 14—typhoid fever, 3—gangrene, 1—gastritis, 3—disease of the heart, 3—intemperance, 1—disease of the kidneys, 2—disease of the liver, 4—leucocythæmia, 1—congestion of the lungs, 3—inflammation of the lungs, 3—malformation, 1—marasmus, 10—old age, 2—pleurisy, 1—premature birth, 1—rheumatism, 2—sunstroke, 1—scrofula, 3—smallpox, 1—disease of the spine, 2—suicide, 1—spina bifida, 1—tabes mesenterica, 1—unknown, 3.

Under 5 years of age, 121—between 5 and 20 years, 11—between 20 and 40 years, 26—between 40 and 60 years, 15—over 60 years, 18. Born in the United States, 152—Ireland, 27—other places, 12.